

Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K.S. Comwell Robert W. Esmond Tracy-Gene G. Durkin Michele A. Cimbala Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael O. Lee Steven R. Ludwig John M. Covert Linda F. Alcoro Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinger

Judith U. Kim Timothy J. Shea, Jr. Patrick E. Garrett Heidi L. Kraus Edward W. Yee Albert L. Ferro* Donald R. Banowit Peter A. Jackman Molly A. McCall Teresa U. Medler Jeffrey S. Weaver Kendrick P. Patterson Vincent L. Capuano Albert J. Fasulo II* Eldora Ellison Floyd Thomas C. Fiala Brian J. Del Buono Virgil Lee Beaston

Kimberly N. Reddick Theodore A. Wood Elizabeth J. Haanes Bruce E. Chalker Joseph S. Ostroff Frank R. Cottingham Christine M. Lhulier Rae Lynp Prengaman Rae Lynn Prengaman Jane Shershenovich* Lawrence J. Carroll* George S. Bardmesser Daniel A. Klein* Daniel A. Klein Rodney G. Maze Jason D. Eisenberg Michael A. Specht Andrea J. Kamage

LuAnne M. Yuricek* Registered Patent Agents • kegistered Patent Age Karen R. Markowicz Nancy J. Leith Ann E. Summerfield Helene C. Carlson Gaby L. Longsworth Matthew J. Dowd Aaron L. Schwartz Angelique G. Uy Mary B. Tung Katrina Y. Pei Bryan L. Skelton Robert A. Schwartzman John J. Figueroa

Timothy A. Doyle Jennifer R. Mahalingappa

Teresa A. Colella Jeffrey S. Lundgren Victoria S. Rutherford

Of Counsel Kenneth C. Bass III Lisa A. Dunne

*Admitted only in Maryland * Admitted only in Virginia • Practice Limited to Federal Agencies

May 2, 2003

WRITER'S DIRECT NUMBER: (202) 772-8771 **INTERNET ADDRESS:** vbeaston@skgf.com

Art Unit 1631

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Non-Provisional Utility Patent Application Appl. No. 09/934,084; Filed: August 22, 2001

For:

Method, System, and Computer Program Product for **Determining Properties of Combinatorial Library Products**

from Features of Library Building Blocks

Inventors:

Lobanov et al.

Our Ref:

1503.1070003

Sir:

Transmitted herewith for appropriate action are the following documer FECH CENTER 1600/2900

- 1. Fourth Supplemental Information Disclosure Statement;
- 2. Form PTO-1449 listing and accompanied by 186 documents; and
- 3. One return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox PLLC. : 1100 New York Avenue, NW : Washington, DC 20005 : 202.371.2600 f 202.371.2540 : www.skgf.com

Commissioner for Patents May 2, 2003 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GQLDSTEIN & FOX P.L.L.C.

Virgil L. Beaston

Attorney for Applicants Registration No. 47,415

Enclosures

VLB/sjc ::ODMA\MHODMA\SKGF_DC1;102053;1



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Lobanov et al.

Appl. No. 09/934,084

Filed: August 20, 2001

For:

Method, System and Computer

Program Product And Properties of Combinatorial
Library Products from Features of Library Building Blocks

Fourth Supplemental Information Disclosure Statement FECE/VED

TECH CENTER 1600/2000

Confirmation No. 7373

Art Unit:

Examiner: Mahatan

Atty. Docket: 1503.1070003

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- □ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- 2. Filing under 37 C.F.R. § 1.97((b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required.
- □ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.
 - □ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- □ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- □ c. Attached is our PTO-2038 Credit Card Payment Form in payment of the fee under 37 C.F.R. § 1.17(p).
- □ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our Check No. ______ in the amount of \$_____ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:
 - □ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
 - □ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- □ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the

foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.

- ☐ 6. A concise explanation of the relevance of the non-English language document(s) appears below:
- □ 7. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. _______, filed ______, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Virgil L. Beaston

Attorney for Applicants Registration No. 47,415

Date: 5 / 2 /

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

::ODMA\MHODMA\SKGF_DC1;101379;1 SKGF Rev. 12/1802 mac WAY OF THE OFFICE THE

FORM PTO-1449

OURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY. DOCKET NO. APPLICATION NO. 1503.1070003 09/934,084

APPLICANTS
Lobanov et al.

FILING DATE GROUP

ــــــ حريه	DISC	LOSUR	E STATEMENT				LING DATE qust 22, 2001		GROU 1631		
					U.S. P		T DOCUMENTS	-			
EXAMINER INITIAL			CUMENT MBER	DAT	E	NAM	E	-	CLASS	SUB- CLASS	FILING DATE
	AA1									R	CEIVED S 2003
	AB1									- 4	9Cc.
	AC1									MAL	1600/2900
	AD1								<u> 7</u>	7	0, 0
	AE1								<u> </u>	YM CEAN	<003
	AF1									77/2	P
	AG1					↓			ļ		1000/2000
	AH1		1			ļ			ļ	ļ	1000
	Al1	<u></u>			_		<u>-</u>			<u> </u>	<u> </u>
		<u> </u>			FOREIGI	N PAT	ENT DOCUMENTS		1	1	
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
AJ1 EP 0			0 818 744 A2		01/1998		EPO		G06F	17/50	Yes No
	AK1	wo	93/20242		10/1993		PCT		C12Q	1/70	Yes No
	AL1	wo	95/01606		01/1995		РСТ		G06F	15/42	Yes No
AM1 WO 97/27559					07/1997		PCT		G06F	19/00	Yes No
			ОТНІ	ER (In	cluding Aut	hor, T	itle, Date, Pertinent F	ages, e	tc.)		
	AN	1	Borg, Ingwer in Statistics,				fodern Multidimensiona ted.	al Scalin	g Theory and	l Application	s, Springer Series
	AO	1					versity profiling and co 1999, pp. 1-22.	mbinato	rial series de	sign," <i>Moled</i>	ular Diversity,
	Agrafiotis, D.K. and Lobanov, V.S., "An Efficient Implementation of Distance-Based Diveristy Measures Based on <i>k-d</i> Trees," <i>Journal of Chemical Information and Computer Science</i> , American Chemical Society, Vol. 39, No. 1, January/February 1999, pp. 51-58.										
Agrafiotis, D.K. and Lobanov, V.S., "Bridging The Gap Between Diversity And QSAR," Abstracts of P 1: 215th ACS National Meeting, American Chemical Society, March 29-April 2, 1998, p. 181-COMP.										cts of Papers Part COMP.	
	AR	1	Agrafiotis, D. Abstracts of COMP.	K. and Paper	d Jaeger, E.F s <i>Part 1: 211</i>	P., "Dir Ith AC	ected Diversity®: An C S <i>National Meeting</i> , Ar	Operating merican	System For Chemical So	Combinator ciety, March	rial Chemistry," 24-28, 1996, p. 46
EXAMINER		<u> </u>	1		-				DATE CONS	SIDERED	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in

conformance and not considered. Include copy of this form with next communication to Applicant.

ATTY. DOCKET NO. 1503.1070003

APPLICATION NO. 09/934,084

APPLICANTS

FOI	סווף עידעו	DI.EMENT	AL INFOR	матто	N	Lol	oanov et al.					
<u> </u>			STATEMEN		_		ING DATE			ROUP		
					U.S. P	ATEN	DOCUMENTS		1	631		
EXAMINER INITIAL		DOCUI NUMBI		DAT	E	NAMI			CLASS	s	SUB- CLASS	FILING DATE
	AA2					-		*****				
	AB2	+		-		ļ		- · · ·			_	
	AC2	-		+-		 -						CEIVED
	AD2 AE2					 						Ella
	AF2			 		 				~	MAY	En
	AG2	+		 		 				150	HON	5 200
	AH2	+		+-	_	 	· · · · · ·		-		LAVIE	1003
	Al2	 				1						16000
	INIZ				FOREIGN	N PATE	NT DOCUMENT	s .				5 2003 1600/2900
EXAMINER		T			T OKEIOI		AT DOCUMENT		Т			T
INITIAL		DOCUI	MENT NUN	IBER	DATE		COUNTRY		CLAS	S	SUB- CLASS	TRANSLATION
	AJ2	WO 98	/20459		05/1998		PCT		G06T		11/20	Yes No
	AK2											Yes No
	AL2											Yes No
	AM2								:			Yes No
	·		OTH	ER (In	cluding Aut	thor, Ti	tle, Date, Pertine	ent Pages, e	tc.)			
	AN	- L	td, Vol. 1:A	D, 199	98, pp. 742-7	761.						ohn Wiley & Sons
	AO	2 A	grafiotis, D	o.K., "O and Co	n the Use of mputer Scie	f Inform ence, Ar	ation Theory for A nerican Chemical	Assessing M Society, Vo	olecular [I. 37, No.	Divers 3, Ma	ity," <i>Journal</i> ay/June 1997	of Chemical 7, pp. 576-580.
AP 2 Agrafiotis, D.K. et al., "Parallel QSAR," Abstracts of Papers Part 1: 217th ACS National Meeting, N. 1999, p. 50-COMP.										g, March 21-25,		
	AQ	2 6	grafiotis, D Computation	.K. et a nal Che	al., "PRODEI emistry, John	N: A Ne n Wiley	ew Program for Ca & Sons, Inc., Vol.	alculating Int	egrated F October 1	Projec 990, p	eted Populati pp. 1101-111	ons," <i>Journal of</i> 10.
	AR 2 Agrafiotis, D.K. and Jaeger, E.P., "Stochastic Algorithms for Exploring Molecular Diversity," Abstracts of Papers Part 1: 213th ACS National Meeting, American Chemical Society, April 13-17, 1997, p. 16-CINF.											
EXAMINER		11_	<u> </u>						DATE C	ONSI	DERED	

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

APPLICATION NO. ATTY. DOCKET NO. 09/934,084 1503.1070003

APPLICANTS Lobanov et al.

FILING DATE

GROUP

	<u> </u>	200010	<u></u>	-		Au	gust 22, 2001		1631	<u> </u>		
					U.S. P	ATEN	T DOCUMENTS					
EXAMINER INITIAL			CUMENT IBER	DATI	Ξ	NAM	Е	CI	LASS	SUB- CLASS	FILING DATE	
	AA3											
	AB3									ME	CEIVED 5 2003	
	AC3										4E/1/2	
	AD3	ļ								MAY		
	AE3	ļ							E	W 02	5 2003 1600/2900	
	AF3					ļ				CENTE	~003	
	AG3	<u> </u>				ļ				1/2/	1600/2	
	AH3	ļ	<u>-</u>							<u> </u>	1°00/2900	
	Al3	_										
	_				FOREIGI	N PAT	ENT DOCUMENTS				1	
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY	C	LASS	SUB- CLASS	TRANSLATION	
	AJ3		-								Yes No	
	AK3										Yes No	
	AL3										Yes No	
	AM3						,				Yes No	
			отн	ER (In	cluding Aut	thor, T	itle, Date, Pertinent Pa	ages, etc.)				
	AN	3					the Complex: Arts and land, Vol. II, 1994, pp.		ologies,"	Applications	s and Impacts	
	AO	<u>3</u>					ction Algorithms," <i>IEEE</i> Vol. PAMI-3, No. 6, No				is And Machine	
AP Bonchev, D. and Trinajstić, N., "Information theory, distance matrix, and molecular branching Chemical Physics, American Institute of Physics, Vol. 67, No. 10, November 15, 1977, pp. 48										ar branching, 1977, pp. 45	" The Journal of 17, 4520-4533.	
	AQ	<u>3</u>	Chang, C.L. Transactions March 1973,	on Sy	stems, Man	A Heui a, and (istic Relaxation Methoc Cybernetics, IEEE Syste	d for Nonline ems, Man, a	ar Mapp nd Cybe	ing in Cluste rnetics Socie	r Analysis," <i>IEEE</i> ety, Vol. SMC-3,	
	AR	<u>3</u>	Cramer, R.D. et al., "Virtual Compound Libraries: A New Approach to Decision Making in Molecular Discovery Research," J. Chem. Inf. Comput. Sci., American Chemical Society, Vol. 38, No. 6, November/December 1998, pp. 1010-1023.									
FXAMINER	<u> </u>		L					DAT	E CONS	SIDERED		

Yes No Yes

No

Yes No

Yes No

ATTY. DOCKET NO. APPLICATION NO. 09/934,084 1503.1070003 FORM PTO-1449 APPLICANTS Lobanov et al. FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP 1631 August 22, 2001 **U.S. PATENT DOCUMENTS EXAMINER CLASS** SUB-FILING DATE DATE NAME INITIAL DOCUMENT **CLASS** NUMBER AA4 TECH CENTER 1600/2900 AB4 AC4 AD4 AE4 AF4 AG4 AH4 AI4 **FOREIGN PATENT DOCUMENTS** EXAMINER **CLASS** SUB-**TRANSLATION** INITIAL DOCUMENT NUMBER DATE COUNTRY **CLASS** AJ4 AK4 AL4 AM4 OTHER (Including Author, Title, Date, Pertinent Pages, etc.) DeMers, D. and Cottrell, G., "Non-Linear Dimensionality Reduction," Advances in Neural Information Processing ΑN <u>4</u> Systems, Vol. 5, 1993, pp. 580-587. Frey, P.W. and Slate, D.J., "Letter Recognition Using Holland-Style Adaptive Classifiers," Machine Learning, AO <u>4</u> Kluwer Academic Publishers, Vol. 6, 1991, pp. 161-182. Friedman, J.H., "Exploratory Projection Pursuit," Journal of the American Statistical Association, American AP <u>4</u> Statistical Association, Vol. 82, No. 397, March 1987, pp. 249-266. Friedman, J.H. and Tukey, J.W., "A Projection Pursuit Algorithm for Exploratory Data Analysis," IEEE AQ <u>4</u> Transactions on Computers, IEEE Computer Society, Vol. C-23, No. 9, September 1974, pp. 881-889.

EXAMINER DATE CONSIDERED

September 1995, pp. 273-282.

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Garrido, L. et al., "Use of Multilayer Feedforward Neural Nets As A Display Method for Multidimensional Distributions," International Journal of Neural Systems, World Scientific Publishing Co. Pte. Ltd., Vol. 6, No. 3,

AR

<u>4</u>

AN A TRADERS

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	
FILING DATE	GROUP

				 	Augus	t 22, 2001		1631				
				U.S. P	ATENT D	OCUMENTS						
EXAMINER INITIAL		DOCUMENT NUMBER	DAT	E	NAME			CLASS	SUB- CLASS	FILING DATE		
	AA5											
	AB5											
	AC5								MEC	EIVED		
	AD5			_					1	15/Vr_		
	AE5			•					MAY	150		
	AF5			•				TEC	4	5 2000		
	AG5							70,	CENTER	1003		
	AH5								1277	160000		
	AI5									1600/2900		
				FOREIGI	N PATENT	DOCUMENTS						
EXAMINER INITIAL		DOCUMENT	NUMBER	DATE	Co	DUNTRY		CLASS	SUB- CLASS	TRANSLATION		
	AJ5									Yes No		
	AK5									Yes No		
	AL5			-						Yes No		
	AM5									Yes No		
			OTHER (In	cluding Aut	thor, Title,	Date, Pertinent	Pages, et	c.)				
	AN	5 Fragm	ental Method	ls: An Analy:	sis of ALO	obic (Lipophilic) F GP and CLOGP N 21, 1998, pp. 376;	Methods,"	of Small Org Journal of P	anic Molecul hysical Chen	es Using nistry, American		
	AO	5 Hall, L Proper	Hall, L.H. and Kier, L.B., "The Molecular Connectivity Chi Indexes and Kappa Shape Indexes in Structure-Property Modeling," <i>Reviews in Computational Chemistry: Advances</i> , VCH Publishers, Inc., 1991, pp. 367-422.									
	АР	5 Hecht-	Nielsen, R., ation for the	"Replicator I Advanceme	Neural Net ent of Scier	works for Univers ice, Vol. 269, Sep	sal Optimal otember 29	Source Cod , 1995, pp. 1	ling," <i>Science</i> 860-1863.	ə, American		
	AQ					tatistical Variables rk, Inc., Vol. XXIV						
	AR		Hotelling, H., "Analysis of a Complex of Statistical Variables into Principal Components," <i>The Journal of Educational Psychology</i> , Warwick and York, Inc., Vol. XXIV, No. 7, October 1933, pp. 498-520.									
FXAMINER							ı,	DATE CONS	IDERED			

AND THATELED

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003 APPLICATION NO. 09/934,084

APPLICANTS Lobanov et al.

FILING DATE August 22, 2001

GROUP 1631

						1	9400 227 2442					
					U.S. P	ATEN	T DOCUMENTS					
EXAMINER INITIAL		DOCU	JMENT BER	DAT	E	NAM	E		CLASS	SUB- CLASS	FILING DATE	
	AA6											
	AB6									RE	EIVED 5 2003	
	AC6									120	Elle	
	AD6									MAV	ED	
	AE6								Tro	" 0	5 20	
	AF6				-				1201	CENTA	<003	
	AG6									TIVIER	1600	
	AH6		_								5 2003 2600/2900	
	Al6					<u> </u>						
					FOREIG	N PATI	ENT DOCUMENTS					
EXAMINER INITIAL		DOC	UMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION	
	AJ6										No	
	AK6										Yes No	
	AL6										Yes No	
	AM6										Yes No	
	_		ОТН	ER (In	cludina Aut	hor. T	itle, Date, Pertinent	Pages, e	tc.)			
	AN	<u>6</u>	Lee, R.C.T. (IEEE Transa 292.	et al., " octions	A Triangulat on Compute	tion Me	ethod for the Sequent e Institute of Electrica	tial Mappii al and Ele	ng of Points fi ctronics Engi	rom <i>N</i> -Space neers, Marcl	e to Two-Space," h 1977, pp. 288-	
	Lipinski, C.A. et al., "Experimental and computational approaches to estimate solubility and per discovery and development settings," Advanced Drug Delivery Reviews, Elsevier Science B.V. pp. 3-25.									ermeability in drug /., Vol. 23, 1997,		
AP 6 Lobanov, V.S. and Agrafiotis, D.K., "Intelligent Database Mining Techniques," Abstracts of Paga ACS National Meeting, March 29-April 2, 1998, p. 19-COMP.									pers Part 1: 215th			
	AQ	<u>6</u>	Lobanov, V.S <i>Meeting</i> , Ma				ons from Virtual Libra	aries," Abs	stracts of Pap	ers Part 1: 2	217th ACS National	
	AR	<u>6</u>	Mao, J. and Jain, A.K., "Artificial Neural Networks for Feature Extraction and Multivariate Data Projection," <i>IEEE transactions on Neural Networks</i> , IEEE Neural Networks, Vol. 6, No. 2, March 1995, pp. 296-317.									
FXAMINER	. L	LL						 1	DATE CONS	IDERED		

TA TRADE FOURT

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION

111111 20012	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	

	DISC	LOSURE	STATEMEN	T			LING DATE gust 22, 2001		GROU 1631			
					U.S. P		T DOCUMENTS		1 200.	<u> </u>		
EXAMINER INITIAL		DOC	UMENT BER	DAT		NAM		CL	ASS	SUB- CLASS	FILING DATE	
	AA7	1.0				 						
	AB7									RE	EIVED 5 2003	
	AC7									120	Elle	
	AD7									Max	LIVED	
	AE7			4		<u> </u>			780	, 0	5 2003 1600/2900	
	AF7	_		_					IEU	CENTER	1003	
	AG7	ļ								-11/C/h	1600/000	
	AH7			-						-	200/2900	
	AI7										<u> </u>	
		т —			FOREIG	N PAT	ENT DOCUMENTS	 -		<u> </u>		
EXAMINER INITIAL		DOC	UMENT NUI	MBER	DATE		COUNTRY	CL	ASS	SUB- CLASS	TRANSLATION	
	AJ7										Yes No	
	AK7										No	
	AL7					:					Yes No	
:	AM7							- 112-			Yes No	
	<u> </u>		ОТІ	IER (In	cluding Au	thor, T	itle, Date, Pertinent F	Pages, etc.)				
	AN	7	Oja, E., "Pri Press Ltd.,	ncipal (Vol. 5,	Components 1992, pp. 92	s, Mino 27-935.	r Components, and Lin	ear Neural Ne	etworks	," Neural Ne	tworks, Pergamon	
	AO	7	Patterson, I Descriptors	D.E. et a ," Journ	al., "Neighbo al of Medici	orhood inal Ch	Behavior: A Useful Co emistry, American Che	ncept for Vali emical Society	dation o	of 'Molecular 9, No. 16, 19	Diversity' 96, pp. 3049-3059.	
AP Pykett, C.E., "Improving the Efficiency of Sammon's Nonlinear Mapping by Using Clustering Electronics Letters, The Institution of Electrical Engineers, Vol. 14, No. 25, December 7, 197										Clustering A	Archetypes," 3, pp. 799-800.	
	AQ	7	Rubner, J. a European P	and Tav Physical	an, P., "A S Society, Vo	elf-Org	ganizing Network for Pr No. 7, December 1, 198	rincipal-Comp 39, pp. 693-69	onent A 8.	analysis," <i>Eu</i>	rophysics Letters,	
	AR	7	Sadowski, J. et al., "Assessing Similarity and Diversity of Combinatorial Libraries by Spatial Autocorrelation Functions and Neural Networks," <i>Angewandte Chemie</i> , VCH, Vol. 34, No. 23/24, January 5, 1996, pp. 2674-2677.									
EYAMINED	L	ll						Траті	= CON	SIDERED		

WIN 2 THE THE

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	
FILING DATE	GROUP

						gust 22, 2001		1103				
				U.S. P	ATEN	DOCUMENTS						
EXAMINER INITIAL		DOCUMENT NUMBER	DAT	E	NAM	E		CLASS	SUB- CLASS	FILING DATE		
	AA8											
	AB8								RES	EIVED		
	AC8								1.120	Elle		
	AD8								Mu	TVED		
	AE8								770	5 200-		
	AF8							IECH	Y CENT	5 2003 1600/2900		
	AG8								PLIVIER	1800		
	AH8									1400/2900		
	Al8					<u></u>			<u> </u>			
				FOREIG	N PATI	NT DOCUMENTS						
EXAMINER INITIAL		DOCUMENT N	UMBER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION		
	AJ8						.			No		
	AK8					****				No		
	AL8									No		
	AM8									Yes No		
····			TUED ()	1	41 T		D	-4- \	<u> </u>] NO		
			THER (IN	cluding Au	tnor, I	itle, Date, Pertinent	Pages, o	etc.)				
	AN	Kim, J. e. Conferen 604.	Kim, J. et al., "Multiple Neural Networks using the Reduced Input Dimension," <i>Proceedings of the International Conference on Acoustics, Speech, and Signal Processing</i> , IEEE, Vol. 2, April 19-22, 1994, pages II-601 to II-604.									
	AO						r representation and manipulation of combinatorial libraries," er Academic Publishers, 1997, pp. 13-30.					
	АР	8 chemical	structures	d Willett, Pe s," <i>Journal o</i> 9, pp. 311-3	pperbound procedure uter-Aided Molecula	es for the r Design,	identification ESCOM Sci	n of similar thence Publish	nree-dimensional ners B.V., Vol. 2,			
	AQ	8 Brown, R Journal o	obert D. a f Medicina	nd Martin, Y al Chemistry	∕vonne ∕, Ameri	C., "Designing Comb can Chemical Societ	binatorial ty, Vol. 4	Library Mixtu D, No. 15, 19	ures Using a 97, pp. 2304	Genetic Algorithm," -2313.		
	AR	8 Libraries,	Gillet, Valerie J. et al., "The Effectiveness of Reactant Pools for Generating Structurally-Diverse Combinatorial Libraries," Journal of Chemical and Information Computer Sciences, American Chemical Society, Vol. 37, No. 4, 1997, pp. 731-740.									
EXAMINER								DATE CON	SIDERED			

MA TRACES

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084	
APPLICANTS Lobanov et al.	·	
FILING DATE August 22, 2001	GROUP	

						Au	gust 22, 2001		163.			
					U.S. P	ATEN	T DOCUMENTS					
EXAMINER INITIAL			CUMENT MBER	DATE	=	NAM	E		CLASS	SUB- CLASS	FILING DATE	
	AA9											
	AB9											
	AC9											
	AD9									MEC	EIVED 2003	
	AE9									10,	FIVED	
	AF9									MAY	70	
	AG9								TFO	MAY	2003	
	AH9									CENTED		
	AI9										2003 1600/2900	
					FOREIG	N PAT	ENT DOCUMENTS					
EXAMINER INITIAL	:	DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION	
	AJ9			**							Yes No	
	AK9										Yes No	
	AL9										Yes No	
	AM9										Yes No	
		-	отні	ER (Inc	cluding Aut	hor, T	itle, Date, Pertinent	Pages, etc	.)			
	AN	<u>0</u> 1	Gillet, Valerie of Chemical I 177.	J. et a	al., "Selectination and Co	ng Com Ompute	nbinatorial Libraries to or Sciences, American	o Optimize I n Chemical	Diversity ar Society, Vo	nd Physical P bl. 39, No. 1,	roperties," <i>Journal</i> 1999, pp. 169-	
	AO	9	Kearsley, Simon K. et al., "Chemical Similarity Using Physiochemical Property Descriptors," <i>Journal of Chemical Information and Computer Sciences</i> , American Chemical Society, Vol. 36, No. 1, 1996, pp. 118-127.									
	AP	<u>9</u>	Leland, Burto Sciences, An	n A. <i>e</i> nericar	t al., "Manaç n Chemical S	ging the	e Combinatorial Explo /, Vol. 37, No. 1, 1997	osion," <i>Joul</i> 7, pp. 62-70	rnal of Che	mical Informa	tion and Computer	
	AQ	9	The Diverse	Proper	ty-Derived (DPD).	easures for Rational S Approach," Journal of No. 3, 1997, pp. 599-6	f Chemical	n and Anal Information	ysis of Comb and Comput	inatorial Libraries: er Sciences,	
	AR	9	Martin, Eric J. and Critchlow, Roger E., "Beyond Mere Diversity: Tailoring Combinatorial Libraries for Drug Discovery," <i>Journal of Combinatorial Chemistry</i> , American Chemical Society, Vol. 1, No. 1, 1999, pp. 32-45.									
EVANINED		L	1						ATE CONS	SIDEBED		

EXAMINER DATE CONSIDERED

_ · _ · _ ·	Page 10 OI 37
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	
FILING DATE	GROUP

•	A					L 1 2	03.1070003		037	734,004			
TENTATE FOU	F	'ORM P'	TO-1449			1	PLICANTS banov et al.						
FOU	DISCLOSURE STATEMENT					FILING DATE GROUP August 22, 2001 1631							
	DOCUMENT DATE AA10 AB10 AC10 AF10 AG10 AH10 AI10 DOCUMENT NUMBER AA10 AF10 AF10 AG10 AH10 AI10 AI10 AI10 AI10 AI10 AII0 AIII AIIII AIIII AIIII AIIIIII	U.S. P	PATENT DOCUMENTS										
EXAMINER INITIAL				DATE		NAM			CLASS SUB- CLASS		FILING DATE		
	AA10												
	AB10									Dr.			
	AC10									11CCE			
	AD10										VED		
	AE10					<u> </u>				MAY 05	200-		
	AF10								TECH	A	4003		
	AG10									YEN/ER	1600/2900		
	AH10										444/2900		
	Al10												
					FOREIGN	N PATI	ENT DOCUMENTS			<u> </u>			
EXAMINER INITIAL		DOC	UMENT NUME	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION		
	AJ10										Yes No		
	AK10										Yes No		
	AL10		-						-		Yes No		
	AM10										Yes No		
			OTHE	R (Inc	cluding Aut	hor, T	itle, Date, Pertinen	t Pages, etc.)				
	AN	<u>10</u>	Sheridan, Roi Information a	bert P.	. et al., "Che mputer Scie	emical s nces, A	Similarity Using Gec American Chemical	ometric Atom Society, Vol.	Pair Desc 36, No. 1,	riptors," <i>Joui</i> 1996, pp. 12	rnal of Chemical 28-136.		
	AO	<u>10</u>	Willett, Peter American Cho	<i>et al.</i> , emical	"Chemical S Society, Vo	Similari bl. 38, f	ity Searching," <i>Jour</i> No. 6, 1998, pp. 983	nal of Chemic 3-996.	al Informa	ation and Cor	mputer Sciences,		
	АР	10	Journal of Ch	mitris I emica	K. and Loba I Information	nov, Vi n and C	ctor S., "Ultrafast A Computer Sciences,	lgorithm for D American Ch	esigning l emical Sc	Focused Conociety, 2000,	nbinational Arrays," Vol. 40, No. 4, pp.		
	AQ	<u>10</u>							ndrug-like	' Molecules?	" J. Med. Chem.,		
	AR	<u>10</u>									Molecular		
EXAMINER								I DA	TE CON	SIDERED			

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

	Page	<u>:</u>	<u> </u>	OI	37	
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084					
APPLICANTS Lobanov et al.						
FILING DATE August 22, 2001	GROUP 1631					

					U.S. P.		T DOCUMENTS					
EXAMINER INITIAL		DOC NUM	UMENT BER	DATE	=	NAM	E		CLASS	SUB- CLASS	FILING DATE	
	AA11											
	AB11									D0		
	AC11									17ECE		
	AD11										VED	
*	AE11									MAY 05	80.	
	AF11								TECH		4 <i>003</i>	
	AG11								1001	YENTER 1		
	AH11									CENTER 1	900/290n	
	Al11											
					FOREIGN	N PATI	ENT DOCUMENTS			-		
EXAMINER INITIAL		DOC	UMENT NUMI	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION	
	AJ11		-								Yes No	
	AK11										Yes No	
	AL11										Yes No	
	AM11										Yes No	
			ОТНЕ	R (Inc	cluding Aut	hor, T	itle, Date, Pertinent	Pages, et	c.)			
	AN	<u>11</u>	Brown, Robe Relevant to L Chemical Soc	igand-	Receptor Bi	nding,	C., "The Information " Journal of Chemical 1, pp. 1-9.	Content o	f 2D and 3D on and Comp	Structural De outer Science	escriptors ss, American	
	AO	<u>11</u>	Clustering Me	ethods	and Descrip	otors fo	C., "Use of Structure or Use in Compound cal Society, 1996, Vo	Selection,	" Journal of (Chemical Info	e-Based ormation and	
	AP	<u>11</u>	Knowledge B	ases a	and Databas	es of C	Diversity in Chemical Commercially Availab cal Society, 1996, Vo	le Compoi	unds," <i>Journ</i> a	al of Chemica	al Chemistry al Information and	
	AQ	<u>11</u>					g for Structure-Activi d., Vol. 7, No. 4, July				n," Journal of	
	AR	<u>11</u>	Saunders, M., "Stochastic Exploration of Molecular Mechanics Energy Surfaces. Hunting for the Global Minimum," <i>Journal of the American Chemical Society</i> , American Chemical Society, Vol. 109, 10, May 13, 1987, pages 3150-3152.									
EVANINED								1.	DATE CONS	IDEDED		

MI 12 2000 E

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

		Fage	 OT	ر د
ATTY. DOCKET NO. 1503.1070003	APPLICATION 09/934,084	NO.		
APPLICANTS Lobanov et al.				
FILING DATE	GROUP			

						Αι	ıgust 22, 2001		1631		
	···				U.S. P	ATEN	IT DOCUMENTS				
EXAMINER INITIAL				ATE	=	NAN	ИЕ		CLASS	SUB- CLASS	FILING DATE
EXAMINER INITIAL	AA12										
	AB12										
	AC12									17C	
	AD12									<u> </u>	E4
	AE12									MAY	FIVED
	AF12								_FC	/ /	5 20-
	AG12					<u> </u>			10//	CENT	× <i>003</i>
	AH12				****					115/9;	600
	Al12				-	<u> </u>				<u> </u>	40/2000
					FOREIGI	N PAT	TENT DOCUMENTS			-1	
		DOC	CUMENT NUMBE	R	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ12										
	AK12										
	AL12										
	AM12										
INITIAL DOCUMENT NUMBER DATE NAME CLASS SUB-CLASS AA12 AB12 AC12 AD12 AE12 AF12 AF12 AG12 AH12 AI12 DOCUMENT NUMBER DATE FOREIGN PATENT DOCUMENTS EXAMINER INITIAL AJ12 AJ12 AK12 AK12 AK12 AK12 AK12 AK12 AK12 AK											
	AN	<u>12</u>	Libraries," Journ	nal c	nd Barnard, of Chemical	John Inform	M., "Techniques for Ger nation and Computer Sc	nerating [ciences, A	Descriptive American Cl	Fingerprints nemical Soci	in Combinatorial ety, 1997, Vol. 37,
,	AO	<u>12</u>						," Molecu	lar Diversity	√in Drug Des	sign, Kluwer
	AP	<u>12</u>	Sets: Cleaning U	Jp ti	he Design F	Proces	ss with HARPick," Journ	for Profili al of Med	ng Combin licinal Cher	atorial Librar nistry, Ameri	ies and Screening can Chemical
AJ12 AK12 AN12 OTHER (Including Author, Title, Date, Pertinent Pages, etc.) OWNS, Geoff M. and Barnard, John M., "Techniques for Generating Descriptive Fingerprints in Libraries," Journal of Chemical Information and Computer Sciences, American Chemical Society. 190. 1, "Background Theory of Molecular Diversity," Molecular Diversity in Drug Descriptive Fingerprints in Drug Descriptive Fingerprints in Drug Descriptive Fingerprints in No. 1, pp. 59-61. AD 12 Gillet, Valerie J., "Background Theory of Molecular Diversity," Molecular Diversity in Drug Descriptive Fingerprints in Drug Descriptive Fingerpr										ensionality 1142-1154.	
	AR	12	Combinatorial L	ibra	ry Subsets,	" Jour	nal of Chemical Informa	oduct-Bas	ed Strategi Computer S	es in the Des Sciences, Am	sign of lerican Chemical
EXAMINER		-	<u> </u>						ATE CONS	SIDERED	

AND TRACES

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY.	DOCKET	NO.
1502	070002	

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al

FILING DATE August 22, 2001

						Au	gust 22, 2001		1631	·		
					U.S. P	ATEN	T DOCUMENTS					
EXAMINER INITIAL			CUMENT IBER	DAT	E	NAM	E		CLASS	SUB- CLASS	FILING DATE	
	AA13	1								Rr	5 2003	
	AB13		_							12	CFILL	
	AC13									Mari	-inFD	
	AD13									""47	5 20	
	AE13								IL	CHCCI	<003	
	AF13									LOCIVIE	5 2003 R 1600/2900	
	AG13									<u> </u>	1000/2900	
	AH13											
	AI13											
					FOREIGI	N PAT	ENT DOCUMENTS					
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION	
	AJ13											
	AK13	<u> </u>										
	AL13	ļ										
	AM13											
			ОТН	ER (In	cluding Aut	thor, T	itle, Date, Pertinent Pa	ges, et	tc.)	·		
	AN	<u>13</u>	Kim, H. <i>et al.</i> Engineering November 13	Systen	ns Through .	Artifici	uted Networks for Learni al Neural Networks, Ame	ing Hig erican \$	hly Nonlinea Society of Me	r Mapping," <i>Ir</i> echanical Eng	ntelligent ineers, Vol. 4,	
	AO	<u>13</u>	Leach, Andre and Design," 39, No. 6, pp	Jouna	I of Chemic	menta al Infoi	ation of a System for Reagent Selection and Library Enumeration, Profiling ormation and Computer Sciences, American Chemical Society, 1999, Vol.					
	AP	<u>13</u>	Lobanov, Vic Libraries," Jo 2000, Vol. 40	urnal d	of Chemical	Inform	nitris K., "Stochastic Sim ation and Computer Scie	ilarity S ences,	Selections fro American Ch	om Large Con nemical Socie	nbinatorial ty, March/April	
AQ 13 Matter, Hans, and Pötter, Thorsten, "Comparing 3D Pharmacophore Triplets and 2D Fingerprints for Select Diverse Compound Subsets," Journal of Chemical Information and Computer Sciences, American Chemical Society, 1999, Vol. 39, No. 6, pp. 1211-1225. Matter, Hans, "Selecting Optimally Diverse Compounds from Structure Databases: A Validation Study of Dimensional and Three-Dimensional Molecular Descriptors," Journal of Medicinal Chemistry, American Chemical Society, 1997, Vol. 40, No. 8, pp. 1219-1229.											ts for Selecting can Chemical	
											n Study of Two- American	
EXAMINER					·				DATE CONS	SIDERED		

WI TRACE FOURT

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY.	DOCKET	NO.
3 5 4 3	1070003	

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al

FILING DATE August 22, 2001 GROUP 1631

					II C D		DOCUMENTS	<u> </u>	163					
EVALUNED		1		1	<u>U.S. P</u>	AIEN	DOCUMENTS				T			
EXAMINER INITIAL			CUMENT MBER	DAT	E	NAM	E		CLASS	SUB- CLASS	FILING DATE			
	AA14													
	AB14									RECE MAY 0 5	.			
	AC14										VED			
	AD14									MAY	\ <u>\</u>			
	AE14								——	V 5	2003			
	AF14								/EC/	CENTER				
	AG14									VIEH	600/2000			
	AH14										342900			
	Al14													
					FOREIGI	N PATI	NT DOCUMENT	rs						
EXAMINER INITIAL		DOG	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION			
	AJ14			"							No			
	AK14							····			No			
	AL14										No			
	AM14		·								No			
			OTH	EP /ln	cluding Aut	hor T	tle Date Pertin	ent Pages	etc \					
.	OTHER (Including Author, Title, Date, Pertinent Pages, etc.)													
	AN	<u>14</u>	Sadowski, Je Journal of Me	ns and	I Kubinyi, Hu I Chemistry,	ıgo, "A Amerio	Scoring Scheme can Chemical So	for Discrimi ciety, 1998, '	minating between Drugs and Nondrugs," 8, Vol. 41, No. 18, pp. 3325-3329.					
	AO	<u>14</u>	Schnur, Dora Journal of Ch 36-45.	, "Desi emicai	gn and Dive	ersity A	nalysis of Large (omputer Science	Combinatoria , American C	al Libraries Us Chemical Soc	sing Cell-Base iety, 1999, Vol	ng Cell-Based Methods," ety, 1999, Vol. 39, No. 1, pp.			
Schuffenhauer, Ansgar et al., "Similarity Searching in Files of Three-Dimensional Chemical Structures: An of the BIOSTER Database Using Two-Dimensional Fingerprints and Molecular Field Descriptors," Journa Chemical Information and Computer Science, American Chemical Society, 2000, Vol. 40, No. 2, pp. 295-3										s," Journal of				
AQ 14 Turner, David B. et al., "Rapid Quantification of Molecular Diversity for Selective Database Acquisition of Chemical Information and Computer Science, American Chemical Society, 1997, Vol. 37, No. 1, pp. 14 Turner, David B. et al., "Rapid Quantification of Molecular Diversity for Selective Database Acquisition of Chemical Information and Computer Science, American Chemical Society, 1997, Vol. 37, No. 1, pp. 15 Turner, David B. et al., "Rapid Quantification of Molecular Diversity for Selective Database Acquisition of Chemical Information and Computer Science, American Chemical Society, 1997, Vol. 37, No. 1, pp. 15 Turner, David B. et al., "Rapid Quantification of Molecular Diversity for Selective Database Acquisition of Chemical Information and Computer Science, American Chemical Society, 1997, Vol. 37, No. 1, pp. 15 Turner, David B. et al., "Rapid Quantification of Molecular Diversity for Selective Database Acquisition of Chemical Information and Computer Science, American Chemical Society, 1997, Vol. 37, No. 1, pp. 15 Turner, David B. et al., "Rapid Quantification of Molecular Diversity for Selective Database Acquisition of Chemical Information and Computer Science, American Chemical Society, 1997, Vol. 37, No. 1, pp. 15 Turner, David B. et al., "Rapid Quantification of Molecular Diversity for Selective Database Acquisition of Chemical Information and Chemical Selective Database Acquisition of Chemical Selective Database Database Database Database Database											uisition," <i>Journal</i> o. 1, pp. 18-22.			
	AR	<u>14</u>	Prediction of	Drug F	easibility of	Compo	ward Designing [bunds," <i>Journal o</i> 6, pp. 524-533.	Orug-Like Lit f Combinato	oraries: A Nov rial Chemistry	rel Computatio v, American Cl	onal Approach for nemical Society,			
EXAMINER	<u> </u>		<u> </u>	, .					DATE CON	SIDERED	····			

ATTY. DOCKET NO. 1503.1070003

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al. FILING DATE

EOITE	ידע כווחו	T EME	אידאו דאיבירסא	4 አ ጥ T () እ	.T	Γo	banov et al.						
FOUR	DOCUMENT NUMBER				<u>N</u>	FILING DATE GROUP August 22, 2001 1631							
					U.S. P	ATEN	T DOCUMENTS						
EXAMINER INITIAL				DATE	Ξ	NAM	E		CLASS	SUB- CLASS	FILING DATE		
	AA15												
	AB15									D.			
	AC15									75	CEIVED 0 5 2003		
	AD15						<u>-</u>				PEIVED		
	AE15									MAY	15		
	AF15	<u> </u>								TECHOL	5 2003 FR 1600/2900		
AC15 AD15 AE15 AF15 AG15 AH15 AI15 EXAMINER INITIAL AJ15 AK15 AL15										PILLENT	AD		
	AH15										1600/2000		
	Al15										72300		
					FOREIGN	PAT	ENT DOCUMENTS						
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE	-	COUNTRY		CLASS	SUB- CLASS	TRANSLATION		
	AJ15										No		
	AK15										No		
	AL15		×- • • • • • • • • • • • • • • • • • • •	100.1.							No		
******	AM15										No		
	1	L	ОТИ	ED (In	luding Aut	hor T	itle Date Pertinent P	Page 6	tc)				
	AN	<u>15</u>	Gasteiger, J.	OTHER (Including teiger, J. et al., "Asserties," Abstracts of the secular Diversity, ESC man, R.E., Adaptive is submitted.		t of the	e Diversity of Combina 1: 211th ACS Nationa	itorial Li	braries by a	n Encoding of 1-28, 1996, p. 7	Molecular Surface 70-CINF.		
	AA15 AA15 AB15 AC15 AC15 AC15 AC15 AF15 AG15 AG15 AH15 AI15 AI15 AN 15 AN 15 AN 15 AN 15 AN 15 Belimate book s AQ 15 AQ 15 Bezdel (1981) AR 15 AR				<i>al.</i> , "Optimiza , ESCOM Sc	ation a	and visualization of mo Publishers B.V., 1996	elecular e , Vol. 2,	diversity of o	combinatorial li	braries,"		
	DOCUMEN NUMBER AA15 AB15 AC15 AC15 AF15 AG15 AH15 AH15 AI15 DOCUMEN AJ15 AK15 BEBLIM BOOK AQ 15 BEZDI (1981)		Bellman, R.E book submitt		ptive Control	l Proce	esses: A Guided Tour,	Princet	on Univ. Pre	ess, Princeton,	NJ (1961), entire		
	AA15 AB15 AB15 AC15 AC15 AC15 AF15 AG15 AH15 AI15 AI15 AN 15 AN 15 AN 15 AN 15 Bellim book AQ 15 Bezd (198-4) AR 15					Recognition with Fuzzy Objective Function Algorithms, Plenum bmitted.					m Press, New York, NY		
	AR	<u>15</u>					Concepts and Application	ions of I	Molecular Si	<i>milarity</i> , John \	Wiley and Sons,		
EXAMINER	<u> </u>		1						DATE CON	NSIDERED	·		

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

FORM PTO-1449

ATTY. DOCKET NO. 1503.1070003

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al.

FILING DATE
August 22, 2

				· 		Au	gust 22, 2001		1631						
					U.S. P	ATEN	DOCUMENTS								
EXAMINER INITIAL			UMENT IBER	DATI	E	NAM	E		CLASS	SUB- CLASS	FILING DATE				
	AA16														
	AB16					<u> </u>				$\perp BE$	EIVED				
	AC16										PEIVED				
	AD16		·			ļ			-	MAY	L				
	AE16					<u> </u>					5 2003				
	AF16	↓	<u></u>			ļ				ECH CENT	ER 1600/2900				
<u> </u>	AG16	<u> </u>				 				-	-11 1600/2900				
	AH16	<u> </u>		ļ		ļ									
	Al16	<u> </u>								<u></u>	<u> </u>				
, ,		·			FOREIGI	N PAT	ENT DOCUMENTS			·	1				
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION				
	AJ16										No				
	AK16										No				
	AL16										No				
	AM16		-								No				
		<u> </u>	ОТН	ER (In	cluding Aut	hor, T	itle, Date, Pertinent Pa	ages, e	etc.)	<u> </u>	<u> </u>				
	AN	<u>16</u>	Kohonen, T.,	Self-C	Organizing M	1aps, S	pringer-Verlag, Heidelb	oerg, G	ermany (199	5), entire book	submitted.				
									·						
	AO	<u>16</u>	Oja, E., Subsentire book s			Pattern	Recognition, Research	h Studie	es Press Ltd.	, Letchworth,	England (1983),				
	AP	<u>16</u>	Agrafiotis, D. Protein Scien	К., "А асе, Са	New Method ambridge Ur	d For A	nalyzing Protein Seque y Press, Vol. 6, No. 2, F	ence Ro Februa	elationships E ry 1997, pp. 2	ips Based On Sammon Maps," op. 287-293.					
AQ 16 Porto, V. et al., "Alternative Neural Network Training Methods," IEEE Expert, IEEE, Vol. 10, No. 4, page											o. 4, pages 16-22.				
	AR	<u>16</u>	Amzel, L.M., 366-369.	"Struc	ture-based	drug de	esign," <i>Current Opinion</i>	in Biot	echnology, V	ol. 9, No. 4, A	ugust 1998, pp.				
EXAMINER					. —	<u>.</u>			DATE CON	SIDERED					

WIT & IBADE

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
ADDITIONTS	102/201/05

Lobanov et al.
FILING DATE
August 22, 2001

GROUP 1631

		 		-	U.S. P	ATEN	T DOCUMENTS				
EXAMINER INITIAL		DOCUME NUMBER		DATI	Ē	NAM	E		CLASS	SUB- CLASS	FILING DATE
	AA17			· · · · · · · · · · · · · · · · · · ·							
	AB17									R	CEIVED
	AC17										CEIVE
	AD17									MA	LO
	AE17									750	5 2000
	AF17									'FUH CEA	7-
	AG17								· I		1600/2000
	AH17										TER 1600/2900
	AI17										
		·			FOREIGI	N PAT	ENT DOCUMENTS	<u> </u>			
EXAMINER INITIAL		DOCUME	ENT NUMB	ER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ17										No
· ·	AK17						· · · · · · · · · · · · · · · · · · ·	or-o,			No
	AL17										No
	AM17	1			· · · · · ·						No
·····			OTUE	B (ln	cluding Aut	hor T	l itle, Date, Pertineı	nt Pages	etc)		_l
		1	OTHE	K (III)	cluding Aut	nor, r	itie, Date, Pertine	in Pages,	810.)		
	AN	17 Bla dive 59.	ney, J.M. a ersity analy	ınd M rsis,"	artin, E.J., " Current Opi	Compu nion in	itational approache Chemical Biology,	es for comb Current Bi	oinatorial libra ology Ltd., Vo	ry design and bl. 1, No. 1, J	i molecular une 1997, pp. 54-
	AO	17 Pro	Mumenthaler, Ch. And Braun, W., "Automated Assignment of Simulated and Experimental NOES' Proteins by Feedback Filtering and Self-correcting Distance Geometry," <i>Journal of Molecular Biolo</i> Press Limited, Vol. 254, No. 3, December 1, 1995, pages 465-480. Caflisch, A. and Karplus, M., "Computational combinatorial chemistry for de novo ligand design: R assessment," <i>Perspectives in Drug Discovery and Design</i> , ESCOM Science Publishers B.V., Vol. 51-84.								
	AP	<u>17</u> ass									
	AQ	17 Me	ng, E. et al ucture, Fur	., "Or action	ientational S and Genetic	Samplir cs, Wil	ng and Rigid-Body l ey-Liss, Inc., Vol. 1	Minimizatio	on in Molecula 993, pages 2	ar Docking," <i>F</i> 66-278.	PROTEINS:
	AR		hler, U. <i>et a</i> 2, 1999, p			he prot	olem of molecular o	liversity," <i>L</i>	Orugs of the F	uture, Prous	Science, Vol. 24,
EXAMINER				·					DATE CON	SIDERED	

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

	14gc_18 OL 37
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	
FILING DATE	GROUP

DATE CONSIDERED

DISCLOSURE STATEMENT 1631 August 22, 2001 U.S. PATENT DOCUMENTS **EXAMINER CLASS** SUB-FILING DATE DOCUMENT DATE NAME INITIAL CLASS NUMBER **AA18 AB18** AC18 AD18 AE18 AF18 AG18 **AH18 AI18 FOREIGN PATENT DOCUMENTS EXAMINER CLASS TRANSLATION** COUNTRY SUB-DOCUMENT NUMBER DATE INITIAL CLASS Yes AJ18 No Yes **AK18** No Yes AL18 No Yes **AM18** No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Felder, E.R. and Poppinger, D., "Combinatorial Compound Libraries for Enhanced Drug Discovery Approaches," ΑN 18 Advances in Drug Research, Academic Press, Vol. 30, 1997, pp. 112-199. Geysen, H.M. and Mason, T.J., "Screening Chemically Synthesized Peptide Libraries for Biologically-Relevant AO 18 Molecules," Bioorganic & Medicinal Chemistry Letters, Pergamon Press Ltd., Vol. 3, No. 3, 1993, pp. 397-404. Gobbi, A. et al., "New Leads By Selective Screening of Compounds From Large Databases," Abstracts of ΑP 18 Papers Part 1: 213th ACS National Meeting, American Chemical Society, April 13-17, 1997, p. 67-CINF. Houghten, R.A. et al., "The Use of Synthetic Peptide Combinatorial Libraries for the Identification of Bioactive AQ 18 Peptides," Peptide Research, Vol. 5, No. 6, 1992, pp. 351-358. Klopman, G., "Artificial Intelligence Approach to Structure-Activity Studies. Computer Automated Structure Evaluation of Biological Activity of Organic Molecules," *Journal of the American Chemical Society*, American Chemical Society, Vol. 106, No. 24, 1984, pp. 7315-7321. AR 18

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

EXAMINER

ATTY. DOCKET NO. 1503.1070003

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al.

FOURTH SUPPLEMENTAL INFORMATION

	DISC	LOSURI	E STATEMENT	•			LING DATE gust 22, 2001		1631	, 	
					U.S. P.		T DOCUMENTS				
EXAMINER INITIAL			UMENT IBER	DATE	<u> </u>	NAM	E	CLA	ss	SUB- CLASS	FILING DATE
	AA19		.,								
	AB19									0	
	AC19									TEC	EIVED 6 2003
	AD19										EIVED
	AE19									MAY	~0
	AF19								_TEC	400	2003
	AG19									CENTE	
	AH19										5 2003 1600/2900
	Al19										7-300
		···			FOREIGN	PAT	ENT DOCUMENTS			· ·	
EXAMINER INITIAL		DOC	UMENT NUM	BER	DATE		COUNTRY	CLA	SS	SUB- CLASS	TRANSLATION
	AJ19		· · · · · ·							,	Yes No
	AK19										Yes No
<u></u>	AL19			•		.			-		Yes No
	AM19										Yes No
	_1	1	ОТН	ER (Inc	ı cludina Aut	hor. T	itle, Date, Pertinent P	Pages, etc.)	_	<u> </u>	
	AN	<u>19</u>	Lajiness, M.S Quantitative	S. et al Structu	., "Implemen ure-Activity F	nting D Re <i>latio</i>	rug Screening Progran nships in Drug Design,	ns Using Molec , Alan R. Liss,	cular Sii Inc., 19	milarity Meth 89, pp. 173-	ods," <i>QSAR:</i> 176.
	AO	<u>19</u>	Loew, G.H. e Publishing Co	t al., "t orpora	Strategies fo	or Indir , No. 4	ect Computer-Aided Di , 1993, pp. 475-486.	rug Design," <i>Pi</i>	harmac	eutical Rese	arch, Plenum
	АР	<u>19</u>	Lynch, M.F. e Sciences, An	e <i>t al</i> ., " nericar	Generic Stru	ucture Society	Storage and Retrieval, v, Vol. 25, No. 3, Augus	," <i>Journal of Cl</i> st 1985, pp. 26	nemical 4-270.	Information	and Computer
	AQ	<u>19</u>	Myers, P.L. 6 6, No. 7, July				ug Discovery," <i>Today's</i> 51 & 53.	s Chemist At W	∕ork, A⊓	nerican Cher	mical Society, Vol.
	AR	<u>19</u>	Pabo, C.O. a American Ch	nd Suc emical	chanek, E.G I Society, Vo	i., "Cor ol. 25, I	mputer-Aided Model-Bu No. 20, 1986, pp. 5987	uilding Strategi '-5991.	es for F	Protein Desig	n," <i>Biochemistr</i> y,
FXAMINER	1		<u> </u>			-	· · · · · · · · · · · · · · · · · · ·	DATE	CONSI	DERED	

FOURTH SUPPLEMENTAL INFORMATION

DISCLOSURE STATEMENT

ATTY.	DOCKET	NO.
1503	1070003	

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al.

FILING DATE August 22, 2001

					U.S. P.	ATEN	DOCUMENTS				
EXAMINER INITIAL		DOC	UMENT IBER	DATE		NAM	E		CLASS	SUB- CLASS	FILING DATE
	AA20										
	AB20									4	CEIVED 05 2003
	AC20									11/1	かつん
	AD20									Aca	CIVA
	AE20									THE THE PARTY	0. 50
	AF20								,	FCH CO.	2003
	AG20							·		JEN7	4 0
	AH20										16000
	Al20										0 5 2003 17 1800/2900
					FOREIGN	N PATI	NT DOCUMENTS				
EXAMINER INITIAL		DOC	UMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ20										Yes No
	AK20										Yes No
	AL20										Yes No
	AM20					· · · ·					Yes No
	1	<u> </u>	ОТНІ	ER (Inc	cludina Aut	hor. T	itle, Date, Pertinen	t Pages.	etc.)		·
	AN	<u>20</u>	Saudek, V. e Journal of Pe 179.	t al., "S eptide l	Solution Con Protein Rese	iformat earch,	ion of Endothelin-1 Munksgaard Interna	by H NMF ational Pub	R, CD, and Mo lishers Ltd., '	olecular Mode Vol. 37, No. 3	ling, " <i>International</i> 1991, pp. 174 -
	AO	<u>20</u>	Singh, J. <i>et a</i> Lead Identifid February 7, 1	ation	and Lead Op	otimiza	c Algorithms to Comtion," <i>J. Am. Chem.</i>	nbinatorial <i>Soc.</i> , Am	Synthesis: A erican Chemi	Computationa cal Society, V	al Approach to ol. 118, No. 7,
	АР	<u>20</u>	Van Drie, J.H Ltd., Vol. 3, N	I. and I	Lajiness, M.: June 1998, p	S., "Ap op. 274	proaches to virtual -283.	library des	sign," <i>Drug Di</i>	iscovery today	∕, Elsevier Science
	AQ	<u>20</u>	Walters, W.F 4, April 1998			reening	g - an overview," <i>Dr</i>	ug Discov	ery today, Els	sevier Science	Ltd., Vol. 3, No.
	AR 20 Weber, L., "Evolutionary combinatorial chemistry: application of genetic algorithms," <i>Drug Discovery today</i> , Elsevier Science Ltd., Vol. 3, No. 8, August 1998, pp. 379-385.										
EXAMINER									DATE CON	SIDERED	

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

	Page 21 01 37
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	
FILING DATE	GROUP

					· · ·	Au	gust 22, 2001		163	1	
					U.S. P	ATEN	T DOCUMENTS				
EXAMINER INITIAL		DOC NUM	:UMENT IBER	DATI	=	NAM	E		CLASS	SUB- CLASS	FILING DATE
	AA21		·								
	AB21										
	AC21								<u> </u>		CEIVED
	AD21								<u> </u>	17/	·
	AE21					_			<u> </u>		Elle
	AF21								_	MAY	020
	AG21								//	CHAR	5 2003 1600/2900
	AH21									CENT	1003
	Al21			<u> </u>							7.1600
						2900					
EXAMINER INITIAL		DOC	UMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ21										Yes No
	AK21									•	Yes No
	AL21										Yes No
	AM21										Yes No
			ОТНІ	ER (In	cluding Aut	hor, T	itle, Date, Pertinent F	ages, e	tc.)		
	AN	<u>21</u>	Weber, L. et Algorithm," A 2280-2282.	al., "O ngewa	ptimization on the control of the co	of the E	Biological Activity of Conational Edition in Eng	ombinato lish, VCI	rial Compou H, Vol. 34, N	und Libraries I Io. 20, Novem	oy a Genetic liber 3, 1995, pp.
	AO	<u>21</u>	Graybill, T.L. Structure-Ba American Ch	sed Di	ug Design,"	Molec	rug Discovery Process ular Diversity and Con . 16-27.	by Integ ibinatoria	ration of Hig al Chemistry	gh-Throughpu r: Libraries an	t Chemistry and d Drug Discovery,
	АР	21	Saund, E., "E and Machine	nsactions on I	Pattern Analysis						
	AQ 21 "3DP gains drug research patent", <i>Chemistry in Britain</i> , The Royal Society of Chemistry, Vol. 32, No. 1, Jan. 1996, p. 22.										
	AR	<u>21</u>	"Accelerate t	he Dis	covery Cycl	e with	Chem-X!", Source and	date of	publication (unclear, 2 pag	es.
EXAMINER			I				. ж		DATE CON	SIDERED	· · · · · · · · · · · · · · · · · · ·

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003 APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al.

FILING DATE August 22, 2001

						Au	gust 22, 2001		163	<u>l</u>				
					U.S. P	ATEN	T DOCUMENTS							
EXAMINER INITIAL			CUMENT MBER	DATI	E	NAM	E		CLASS	SUB- CLASS	FILING DATE			
	AA22													
	AB22									Da				
	AC22									150	TVED			
	AD22									MAY 05	7/Von			
	AE22									MAY	150			
	AF22					<u> </u>			LCH	0	<i>\$000</i>			
	AG22									FNTED_	90			
	AH22					L				11/1	800/00			
	Al22									CENTER 1	7/2900			
					FOREIGI	N PATI	ENT DOCUMENTS				_			
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION			
	AJ22										Yes No			
	AK22										Yes No			
	AL22							 			Yes No			
	AM22					-					Yes No			
			ОТН	ER (In	cluding Aut	thor, T	itle, Date, Pertinent F	ages, e	tc.)					
	AN	<u>22</u>	Agrafiotis, D. Computer Sc	K., "St iences	ochastic Alg , American (gorithm Chemic	s for Maximizing Mole al Society, Vol. 37, No	cular Di	versity", <i>Jour</i> 7, pp. 841-8	nal of Chemi 51.	cal Information and			
	AO	<u>22</u>	regression. K	-neare	st neighbou	r. neur	yrolysis mass spectra al and decision-tree m 97, pp. 389-407.	by fuzz ethods",	y multivariate <i>Analytica Ci</i>	e rule induction himica Acta,	on-comparison with Elsevier Science			
	AP	<u>22</u>	Andrea, T.A. Dihydrofolate 1991, pp. 282	Reduc	ctase Inhibite	Applica	ntions of Neural Netwo	rks in Q emistry,	uantitative Si American Cl	tructure-Activ	rity Relationships o ety, Vol. 34, No. 9,			
	AQ	<u>22</u>	Aoyama, T. e Medicinal Ch	t al., "l emistry	Neural Netw /, American	orks A Chemi	oplied to Quantitative Scal Society, Vol. 33, N	Structure o. 9, 19	e-Activity Rel 90, pp. 2583-	ationship An 2590.	alysis", Journal of			
Aoyama, T. and Ichikawa, H., "Obtaining the Correlation Indices between Parameters Using a Neural Network", <i>Chemical & Pharmaceutical Bulletin</i> Vol. 39, No. 2, February 1991, pp. 372-378.											n Drug Activity and Structural tin, Pharmaceutical Society of Japan,			
EXAMINER			<u> </u>						DATE CON	SIDERED				

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

		Page	23	OL	3 /	
ATTY. DOCKET NO. 1503.1070003	APPLICATION 09/934,084	NO.				
APPLICANTS Lobanov et al.						
FILING DATE	GROUP					

	<u> </u>	20001	<u> </u>	•		Au	gust 22, 2001		1631				
					U.S. P	ATEN	DOCUMENTS	·					
EXAMINER INITIAL			CUMENT MBER	DATE		NAM	E		CLASS	SUB- CLASS	FILING DATE		
	AA23												
	AB23									MAY O	<u></u>		
	AC23										Elle		
	AD23	L								MAY	1050		
	AE23	<u> </u>		<u> </u>					757	" 0	2002		
	AF23	L							120	H CENTER	1600/2900		
	AG23					ļ				-11/CH	1600/00		
	AH23	ļ				ļ					300/2900		
	AI23	<u> </u>				<u> </u>							
		_			FOREIGN	N PATI	ENT DOCUMENTS		1	"			
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION		
	AJ23										Yes No		
	AK23				/*- m					-	Yes No		
····	AL23					·	, property		_		Yes No		
:	AM23										Yes No		
			ОТН	ER (Inc	luding Aut	hor, T	itle, Date, Pertinent Pa	ages, e	tc.)		·		
	AN	<u>23</u>	Leach, A., "A Molecules," I	Surve Review	y of Method s in Compu	s for S tationa	earching the Conforma I Chemistry, VCH Publi	ational S ishers, \	Space of Sma Vol. 2, pages	all and Mediur 1-55.	n-Sized		
	AO	<u>23</u>	Baum, R.M., Engineering	"Comt News,	oinatorial Ap American C	proach hemica	es Provide Fresh Lead al Society, February 7,	ls for M 1994, p	edicinal Cher p. 20-26.	mistry", <i>Cherr</i>	ical &		
	АР	23	Bentley, J. L., "Multidimensional Binary Search Trees Used for Associative Searching", <i>Communication ACM</i> , Association for Computing Machinery, Inc., Vol. 18, No. 9, September 1975, pp. 509-517.										
	AQ	Bottou, L. and Vapnik, V. "Local Learning Algorithms", <i>Neural Computation</i> , Massachusetts Institute of Technology, Vol. 4, No. 6, November 1992, pp. 888-900.											
	AR	<u>23</u>	Boulu, L.G. a Drug Binding July/August	Data A	Accuracy", J	lournai	noi Binding Site Models of Computational Cher	: Calcu mistry,	lation of Bind John Wiley &	ing Modes ar Sons, Inc., V	nd Influence of ol. 10, No. 5,		
EXAMINER			<u> </u>						DATE CONS	SIDERED			

ATTY. DOCKET NO. 1503.1070003

APPLICATION NO. 09/934,084

APPLICANTS

TATES FOR	מווף אידקו	DI EMEN	TAL INFORM	ΑΤΤΟΙ	N	1	banov et al.				
<u>190</u>			STATEMENT		<u></u>		LING DATE gust 22, 2001		GROU 1631	P	
<u></u>					U.S. P		T DOCUMENTS				
EXAMINER INITIAL		DOCI	JMENT BER	DATI		NAM			CLASS	SUB- CLASS	FILING DATE
	AA24										
	AB24								<u> </u>	RECE	
	AC24					L					VED
	AD24	<u> </u>				<u> </u>			<u> </u>	MAY 0 -	70
	AE24	<u> </u>				ļ			TEOU	_ v o	2003 800/2900
	AF24	_				├			VECH	CENTED .	
	AG24	4				\vdash	· · · · · · · · · · · · · · · · · · ·			11/2/17	<i>600/29∩∩</i>
	AH24					-			<u> </u>		1-000
	Al24	<u> </u>				<u> </u>				<u> </u>	
		1			FOREIGI	N PAT	ENT DOCUMENTS	····	1	Τ	
EXAMINER INITIAL		DOC	UMENT NUMI	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ24										Yes No
	AK24						_				Yes No
	AL24										Yes No
	AM24										Yes No
			ОТНЕ	R (In	cluding Aut	hor, T	itle, Date, Pertinent P	ages, e	tc.)	<u> </u>	
	AN	<u>24</u>	Boulu, L.G. e Medicinal Ch	t al., "' emistr	Voronoi Bino y, American	ding Si Chem	te Model of a Polycyclio nical Society, Vol. 33, N	c Aroma lo. 2, 19	atic Hydrocarb 90, pp. 771-7	on Binding P 75.	rotein", Journal of
	AO	<u>24</u>	Cacoullos, T. Institute of St	, "Esti atistic	mation of a al Mathema	Multiva	ariate Density", <i>Annals</i> ol. 18, No. 2, 1966, pp.	of The I 179-18	nstitute of Sta 9.	tistical Mathe	ematics, The
	АР	<u>24</u>	Clark, R.D., " Journal of Ch 1181-1188.	OptiSi emica	im: An Exter al Information	nded D n and (issimilarity Selection M Computer Sciences, An	lethod fonerican	or Finding Div Chemical Soc	erse Represe ciety, Vol. 37,	entative Subsets", No. 6, 1997, pp.
	AQ	<u>24</u>					volutionary algorithms SCOM Science Publish				
	AR	<u>24</u>	Cramer, III, F Steroids to C No. 18, Augu	arrier	Proteins", Jo	ournal	Molecular Field Analyi of The American Chem 67.	isis (Col nical Soc	MFA). 1. Effec ciety, America	et of Shape on n Chemical S	n Binding of Society, Vol. 110,
EXAMINER		<u> </u>		<u></u>					DATE CONS	IDERED	

FORM PTO-1449

FORM PTO-1449

OUT & TRANSPORT SUPPLEMENTAL INFORMATION

DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003

1503.1070003 APPLICANTS APPLICATION NO. 09/934,084

APPLICANTS Lobanov et al.

FILING DATE
August 22, 200

				-		Αυ	gust 22, 2001		163	L	
					U.S. P	ATEN	T DOCUMENTS				
EXAMINER INITIAL			CUMENT MBER	DATE	∃	NAM	IE		CLASS	SUB- CLASS	FILING DATE
	AA25							,		→ Pc	CEIVED
	AB25									1.75	CEIVE
	AC25					<u> </u>				MAY	- VEL
	AD25					 				1771	05 2002
	AE25			<u> </u>						IECH CENT	ER 1600/2900
	AF25					ļ					ER 1600/000
	AG25	-		ļ		-				<u> </u>	300/2900
	AH25			ļ		 					
	Al25	<u> </u>		<u></u>		<u> </u>					<u> </u>
	- 	<u> </u>			FOREIG	N PAT	ENT DOCUMENTS		T		<u> </u>
EXAMINER INITIAL		DOG	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ25					,					Yes No
	AK25										Yes No
	AL25										Yes No
	AM25										Yes No
			ОТН	ER (In	cluding Au	thor, T	itle, Date, Pertinent P	ages, e	tc.)		
	AN	<u>25</u>	Cramer, III, F Medicinal Ch	R. D. e emistr	<i>t al.</i> , "Subst y, Vol. 17, N	ructura No. 5, N	l Analysis. A Novel App May 1974, pp. 533-535.	oroach t	o the Proble	m of Drug Des	sign", Journal of
	AO	<u>25</u>	Crippen, G. I Vol. 8, No. 7	M., "Vc Octob	oronoi Bindir per/Novemb	ng Site er 198	Models", <i>Journal of Co</i> 7, pp. 943-955.	mputati	ional Chemis	<i>try</i> , John Wile	y & Sons, Inc.,
	Friedman, J. H. et al., "An Algorithm for Finding Best Matches in Logarithmic Expected Time", ACM Transactions on Mathematical Software, Association for Computing Machinery, Vol. 3, No. 3, September 19 pp. 209-226.									ACM September 1977,	
	AQ	<u>25</u>	Friedman, J. University Te	H., "Fit echnica	iting Function	ons To 5. 101,	Noisy Data In High Dim (August, 1988), pages	nension: 1-36.	s", Departme	ent of Statistics	
	AR	<u>25</u>	Gallop, M. A Combinatoria 1994, pp. 12	al Libra	ries", <i>Journ</i>	ns of C	combinatorial Technolog dedicinal Chemistry, Am	gies to I nerican	Drug Discove Chemical So	ery. 1. Backgro ciety, Vol. 37,	ound and Peptide No. 9, April 29,
EXAMINER									DATE CON	SIDERED	

TAT & TRACE

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO	
	•
1503.1070003	

APPLICATION NO. 09/934,084

APPLICANTS Lobanov et al.

FILING DATE

GROUP

_	DISC	LOSURE	STATEMEN	Ţ			LING DATE gust 22, 2001		GRO1		
					U.S. P	ATEN	T DOCUMENTS				
EXAMINER INITIAL		DOCUM		DATI	 E	NAM	Ē		CLASS	SUB- CLASS	FILING DATE
	AA26	1									
	AB26									7	ECA
	AC26										SIVE
	AD26			L.,						MA	FR 1600/2900
	AE26									AECH OF	2003
	AF26			ļ						1,05/	150
	AG26	ļ								- 	1600/2000
	AH26	ļ		 		<u> </u>					72300
	Al26	<u> </u>				<u> </u>					
	<u> </u>	1			FOREIGI	N PATI	ENT DOCUMENTS		T	1	1
EXAMINER INITIAL		DOCU	MENT NUN	1BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ26										Yes No
	AK26										Yes No
	AL26										Yes No
	AM26										Yes No
			OTH	IER (In	cluding Aut	thor, T	itle, Date, Pertinent	Pages,	etc.)		
	AN	<u>26</u>	hree-Dime	nsional e Redu	Quantitative ctase Inhibit	e Struc	of Physicochemical ture-Activity Relations ournal of Medicinal C	ships: A	Demonstration	n Using <i>Esch</i>	erichia coli
	AO	<u>26</u>	Good, A. C. Chemistry, i	<i>et al.</i> , ' America	'Structure-A an Chemical	ctivity I Socie	Relationships from Mo ty, Vol. 36, No. 4, Feb	olecular oruary 19	Similarity Ma), 1993, pp. 4	trices", <i>Journa</i> 33-438.	al of Medicinal
	Gordon, E. M. <i>et al.</i> , "Applications of Combinatorial Technologies to Drug Discovery. 2. Combinatorial Orga Synthesis, Library Screening Strategies, and Future Directions", <i>Journal of Medicinal Chemistry</i> , American Chemical Society, Vol. 37, No. 10, May 13, 1994, pp. 1385-1401.									inatorial Organic ry, American	
	AQ	26 H	lartigan, J. ⁄ol. 62, No.	A., "Re 320, D	epresentation ecember, 19	n of Sir 967, pp	nilarity Matrices By To 1140-1158.	rees", Jo	ournal of the A	American Stat	istical Association
	AR	<u> 26</u> N	Iolecular S	hape A	QSAR Inve nalysis", <i>Joe</i> 19, 1980, pp	urnal o	on of Dihydrofolate Re f the American Chemi -7206.	eductase ical Soci	Inhibition by ety, Americar	Baker Triazin Chemical Sc	nes Based upon ociety, Vol. 102,
EXAMINER	_i								DATE CON	SIDERED	

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

TTY. DOCK		
503.10/00	03	

APPLICATION NO. 09/934,084

APPLICANTS Lobanov et al.

FILING DATE August 22, 2001

						Au	gust 22, 2001		1631		
					U.S. P	ATEN	DOCUMENTS		.		
EXAMINER INITIAL		DOCU	JMENT BER	DATI	≣	NAM	E		CLASS	SUB- CLASS	FILING DATE
	AA27				1						
	AB27				***					RED	1VED 2003
	AC27								<u> </u>		1/Von
	AD27					<u> </u>				MAY:	TED
	AE27								TEO	5	2000
	AF27								"LUH	CENTER	1003
	AG27	<u> </u>								THEN	2003 600/29 00
	AH27					<u> </u>			<u> </u>		30/2900
	Al27					ļ			<u> </u>	<u></u>	
				,	FOREIGI	N PATI	NT DOCUMENTS			T · · · · · ·	
EXAMINER INITIAL		DOC	UMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ27										Yes No
	AK27										Yes No
	AL27					·		•••			Yes No
	AM27	<u> </u>			\						Yes
		1			l		l itle, Date, Pertinent Pa	_			110
	AN	<u>27</u>	Jackson, R. 6 Biology Ltd.,	C., "Up Vol. 6,	odate on con No. 6, Dece	nputer- ember	aided drug design", <i>Cu</i> 1995, pp. 646-651.	ırrent O _i	oinion in BIO	TECHNOLOG	SY, Current
	AO	<u>27</u>					eld analysis (CoMFA)", al, 1995, Ch. 12, pp. 29		lar Similarity	in Drug Desig	gn, ed. P. M.
	AP 27 Kohonen, T., "Self-Organized Formation of Topologically Correct Feature Maps", <i>Biological Cybernetics</i> , Springer-Verlag, Vol. 43, No. 1, 1982, pp. 59-69.								bernetics,		
	AQ	<u>27</u>	Koile, K. and International	Shapi Confe	ro, R., "Build rence on Sy	ding A stem S	Collaborative Drug Des ciences, IEEE, 1992, p	sign Sys op. 706-	tem", <i>Procee</i> 716.	dings of the 2	25h Hawaii
	AR	<u>27</u>	Kowalski, B. Chemical Da February 7, 1	ta", <i>J</i> o	urnal of the	Americ	attern Recognition. II. L an Chemical Society, I	inear ar America	nd Nonlinear I n Chemical S	Methods for E Society, Vol. 9	Displaying 95, No. 3,
EXAMINER						 .			DATE CONS	IDERED	

INT & TRACES

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

	1 age 20 01 37
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	
FILING DATE	GROUP

						Au	gust 22, 2001		1631		
					U.S. P.	ATEN	DOCUMENTS				
EXAMINER INITIAL		DOCU	IMENT BER	DATE	E	NAM	E		CLASS	SUB- CLASS	FILING DATE
	AA28										
	AB28										
	AC28									RECE	
	AD28					ļ				LIECE	IVED
	AE28									MAY OA	70
	AF28	<u> </u>				ļ					2003
	AG28	ļ		-			<u> </u>		JEC	CENTER	1600/2900
	AH28					ļ			-,-0	OFINICH	1600/2900
	Al28	<u> </u>		<u> </u>							
		T		•••	FOREIGN	PATI	ENT DOCUMENTS	<u></u>	· · ·····	I	
EXAMINER INITIAL		DOCL	JMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ28					-					Yes No
	AK28										Yes No
	AL28										Yes No
***	AM28								•		Yes No
		•	OTHE	ER (Inc	cluding Aut	hor, T	itle, Date, Pertinent Pa	ages, etc	.)		
	AN		Kruskal, J. B. 1964, pp. 115		metric Multi	dimen	sional Scaling: A Nume	rical Meth	nod", <i>Psych</i> o	ometrika, Vol.	29, No. 2, June,
	AO	<u>28</u>	Lengauer, T. and Rarey, M., "Computational methods for biomolecular docking", <i>Current Opinion in Structural Biology</i> , Current Biology Ltd, Vol. 6, No. 3, June, 1996, pp. 402-406. Luke, B. T., "Evolutionary Programming Applied to the Development of Quantitative Structure-Activity Relationships and Quantitative Structure-Property Relationships", <i>Journal of Chemical Information and Computer Sciences</i> , American Chemical Society, Vol. 34, No. 6, November/December 1994, pp. 1279-1287.								on in Structural
	АР	28									ion and
	AQ	28	Martin, E. J. Computation	et al., ' al Che	'Does Comb mistry, VCH	oinatori Publis	al Chemistry Obviate C hers, Inc., Vol. 10, 199	Computer- 17, pp. 75-	Aided Drug 99.	Design?", Re	eviews in
	AR 28 Martin, E. J. et al., "Measuring Diversity: Experimental Design of Combinatorial Libraries for Drug Discove Journal of Medicinal Chemistry, American Chemical Society, Vol. 38, No. 9, April 28, 1995, pp. 1431-1436										ug Discovery", 1431-1436.
EXAMINER							· · · · · · · · · · · · · · · · · · ·	D	ATE CONS	IDERED	

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY.	DOCKET	ио.
1503.	1070003	

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al.

FILING DATE August 22, 2001 GROUP 1631

			 				gust 22, 2001		[1631		
		,			U.S. P	ATEN	T DOCUMENTS			Т. —	
EXAMINER INITIAL		DOCUM NUMBEI		DATE	=	NAME			CLASS	SUB- CLASS	FILING DATE
	AA29	1	**								
	AB29										
	AC29									LREC	EIVED
	AD29									T. V. Z. D	
	AE29					<u> </u>				MAY	5 2003
	AF29					ļ					
	AG29					ļ			<u> </u>	CH CENT	R 1600/2900
	AH29			<u> </u>							337,2300
	Al29					<u></u>			<u> </u>	<u> </u>	
		т-			FOREIG	N PAT	ENT DOCUMENTS		1	T.	T
EXAMINER INITIAL		росим	ENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ29		1								Yes No
	AK29										Yes No
	AL29										Yes No
	AM29										Yes No
	·		ОТН	ER (Inc	cluding Au	thor, T	itle, Date, Pertinent P	ages, e	etc.)		
	AN	29 Jo 34	urnal of Co	and B	ohacek, R.S er-Aided Mo	S., "QX lecular	P: Powerful, rapid com <i>Design</i> , Kluwer Acade	nputer a emic Pu	lgorithms for sblishers, Vol.	structure-bas 11, No. 4, Ju	ed drug design", ly 1997, pp. 333-
	AO				Valker, P.D. p. 132-137.		ry molecular fragments	in drug	ı research", <i>D</i>	rug Discover	y today, Vol. 2,
	AP	29 Mi	iller, K., "C sevier Scie	On the ence B.	paradigm sł V., Vol. 398	hift fror 3-399, \$	n rational to random de Special Issue, 1997, pp	esign", . o. 467-4	Journal of Mol 71.	ecular Struct	ure (Theochem),
	Jorgensen, W. and Tirado-Rives, J., "Monte Carlo vs. Molecular Dynamics for Conformational Sampling, Journal of Physical Chemistry, American Chemical Society, Vol. 100, No. 34, August 22, 1996, pages 14:14513.									I Sampling," , pages 14508-	
	AR	<u>29</u> alg	szewski, J gorithm," <i>J</i> -56.	l. et al. ournal	, "Sampling of Biomoled	and et	ficiency of metric matri MR, Escom Science Po	ix, dista ublishe	nce geometry rs B.V., Vol. 2	r: A novel par , No. 1, Janu	tial metrization ary 1992, pages
EXAMINER									DATE CONS	SIDERED	

FORM PTO-1449

FORM PTO-1449

DISCLOSURE STATEMENT

ATTY. DOCKET NO. 1503.1070003

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al.

GROUP

August 22, 2001 1631 **U.S. PATENT DOCUMENTS EXAMINER** CLASS SUB-FILING DATE DATE NAME DOCUMENT INITIAL **CLASS** NUMBER **AA30 AB30** AC30 AD30 MAY 0 5 2003 AE30 AF30 TECH CENTIER 1600/2900 AG30 **AH30 AI30** FOREIGN PATENT DOCUMENTS **EXAMINER** CLASS SUB-**TRANSLATION** DOCUMENT NUMBER DATE COUNTRY INITIAL **CLASS** Yes AJ30 No Yes AK30 Nο Yes AL30 No Yes **AM30** No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Omohundro, S. M., "Bumptrees for Efficient Function, Constraint, and Classification Learning", Advances in AN 30 Neural Information Processing Systems 3, Morgan Kaufmann, 1991, 7 pages, unknown. Parrill, A. L., "Evolutionary and genetic methods in drug design", Drug Discovery today, Elsevier Science Ltd., AO 30 Vol. 1, No. 12, December 1996, pp. 514-521. Polanski, J., "A neural network for the simulation of biological systems", Journal of Molecular Structure ΑP 30 (Theochem), Elsevier Science Ltd., Vol. 398-399, Special Issue, 1997, pp. 565-571. Ramos-Nino, M. E. et al., "A comparison of quantitative structure-activity relationships for the effect of benzoic and cinnamic acids on Listeria monocytogenes using multiple linear regression, artificial neural network and AQ 30 fuzzy systems", Journal of Applied Microbiology, Society for Applied Bacteriology, Vol. 82, No. 2, February 1997, pp. 168-176. Rogers, D. and Hopfinger, A. J., "Application of Genetic Function Approximation to Quantitative Structure-Activity Relationships and Quantitative Structure-Property Relationships", Journal of Chemical Information and AR 30 Computer Sciences, American Chemical Society, Vol. 34, No. 4, July/August 1994, pp. 854-866. **EXAMINER** DATE CONSIDERED

Page 31 of 37

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

	rage 31	<u> UL</u>	<u> </u>	_
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084			
APPLICANTS Lobanov et al.				
FILING DATE	GROUP 1631			

	DISCI	JOSUK	E STATEMENT				gust 22, 2001		1631			
					U.S. P		T DOCUMENTS					
EXAMINER INITIAL			OCUMENT DATE UMBER			NAME			CLASS	SUB- CLASS	FILING DATE	
	AA31								ļ			
	AB31									ECEI\	(ED.	
	AC31								n	FULIV		
	AD31							_		AY 0 5 2	003	
	AE31	L				<u> </u>			1 "	I -		
	AF31								TOU	CENTER	600/2900	
	AG31					<u> </u>			IEUN	OLIVILIV	000,200	
	AH31					ļ						
	Al31									<u> </u>	<u> </u>	
					FOREIGI	PAT	ENT DOCUMENTS				·	
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY	-	CLASS	SUB- CLASS	TRANSLATION	
	AJ31										Yes No	
_	AK31										Yes No	
	AL31										Yes No	
	AM31										Yes No	
	I	1	ОТН	EP /In/	cluding Aut	hor T	itle, Date, Pertinent	Pages et	tc)		1	
	AN	<u>31</u>		J. W.	, "A Nonline	ar Mar	oping for Data Structu			nsactions on	Computers,	
	AO	<u>31</u>	Simon, Z. et (Steric) Differ 485-495.	al., "M ences	apping of Di ", <i>Journal</i> of	hydrof f Theoi	olate-reductase Rece retical Biology, Acade	eptor Site emic Press	by Correlatior s, Inc., Vol. 66	n with Minima 6, No. 3, June	l Topological e 7, 1997, pp.	
	AP	<u>31</u>	Pharmacolog	Smellie, A. S. et al., "Fast Drug-Receptor Mapping by Site-Directed Distances: A Novel Method of Predicting New Pharmacological Leads", <i>Journal of Chemical Information and Computer Sciences</i> , American Chemical Society, Vol. 31, No.3, August 1991, pp. 386-392.								
	AQ	<u>31</u>	Specht, D. F. No. 6, Noven	Specht, D. F., "A General Regression Neural Network", <i>IEEE Transactions on Neural Networks</i> , IEEE, Vol. 2, No. 6, November 1991, pp. 568-576.								
	AR	<u>31</u>					liction of the Solvatoo or Sciences, Americar					
EXAMINER	ل <u>ل</u>		<u> </u>						DATE CONS	IDERED		

NO.

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

	APPLICATION
1503.1070003	09/934,084

APPLICANTS

Lobanov et al.

FILING DATE August 22, 2001

						Au	gust 22, 2001		163	l		
					U.S. P	ATEN	DOCUMENTS					
EXAMINER INITIAL			CUMENT MBER	DATE	≣	NAM	E		CLASS	SUB- CLASS	FILING DATE	
	AA32									REC	EIVED	
	AB32											
	AC32	ļ				ļ				MAY	0 5 2003	
	AD32	<u> </u>		ļ		ļ				TEAL OF N	TED 4000/000	
	AE32	-				-			 	FUN CEN	ER 1600/2900	
	AF32					 						
	AG32					 				-		
	AH32	+		-		 		-				
	Al32	<u> </u>		l	EOPEIG	N PATI	ENT DOCUMENTS					
EXAMINER	<u> </u>	T			FOREIGI	TAIL	INT DOCOMENTS		T		I	
INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION	
	AJ32										Yes No	
	AK32										Yes No	
	AL32										Yes No	
	AM32							•			Yes No	
	<u> </u>	<u> </u>	ОТН	ER (Inc	cluding Aut	hor, T	tle, Date, Pertinent Pa	ages, e	etc.)			
	AN	<u>32</u>	Todorov, N. I ligand desigr pp. 175-192.	ı", Joui	Dean, P. M.	., "Eval outer-A	uation of a method for oided Molecular Design,	control , ESCC	ling molecula DM Science F	r scaffold dive Publishers B.V.	rsity in de novo , Vol. 11, 1997,	
	AO	<u>32</u>	Torgerson, V Vol. 17, No.	Torgerson, W. S., "Multidimensional Scaling: I. Theory and Method", <i>Psychometrika</i> , The Psychometric Society, Vol. 17, No. 4, December 1952, pp. 401-419.								
	АР	<u>32</u>	Vapnik, V., "I Systems 4, N	Vapnik, V., "Principles of Risk Minimization for Learning Theory", <i>Advances in Neural Information Processing Systems 4</i> , Morgan Kaufmann Publishers, Inc., 1992, pp. 831-838.								
	AQ	32	Vapnik, V. ar Computation	nd Bott , Mass	ou, L., "Loca achusetts Ir	al Algo	rithms for Pattern Reco of Technology, Vol. 5,	gnition No. 6,	and Depend November 19	encies Estima 993, pp. 893-9	tion", <i>Neural</i> 09.	
	AR	32	Viswanadhar Biochimica e	n, V. N t Bioph	. et al., "Map nysica Acta,	oping th	ne binding site of the nu er Science Publishers E	ucleosi 3.V., V	de transporte ol. 1039, No.	r protein: a 3D 3, 1990, pp. 3	-QSAR study", 56-366.	
EXAMINER					<u> </u>				DATE CON	SIDERED		

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY.	DOCKET	NO.
1503.	1070003	

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al.

FILING DATE August 22, 2001

							gust 22, 2001		1631	-		
	T.	1		ı	U.S. P	ATEN	T DOCUMENTS			T		
EXAMINER INITIAL			CUMENT MBER	DAT	=	NAM	E		CLASS	SUB- CLASS	FILING DATE	
	AA33											
	AB33									DECE	VED 5 2003	
	AC33									HEUL	1 4	
	AD33									1.00V-0	2003	
	AE33	<u> </u>		<u> </u>			- Charter			MAJ	J	
	AF33			ļ					-	CH CENT	R 1600/2900	
	AG33	<u> </u>		ļ						HOU OF !!		
	AH33	ļ		ļ						<u> </u>		
	Al33		<u>-</u> -			<u> </u>						
					FOREIGI	N PAT	ENT DOCUMENTS		-	т-	т	
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION	
	AJ33										Yes No	
	AK33										Yes No	
	AL33										Yes No	
	AM33										Yes No	
	<u> </u>		ОТН	ER (In	cluding Aut	thor, T	itle, Date, Pertinent P	ages, e	etc.)			
	AN	<u>33</u>	Jain, A. et al	., "Artif	icial Neural	Netwo	rks: A Tutorial," IEEE, I	March [·]	1996, pages 3	31-44.		
	AO	33	Westhead, D. R. et al., "A comparison of heuristic search algorithms for molecular docking", <i>Journal of Computer-Aided Molecular Design</i> , Kluwer Academic Publishers, Vol. 11, 1997, pp. 209-228.									
	AP	33	Willett, P., "(Publishers B	Senetic	algorithms l, 13, No. 12	in mole 2, Dece	ecular recognition and ember 1995, pp. 516-52	design' 21.	, Trends in B	iotechnology,	Elsevier Science	
	AQ	33	Willett, P. and Winterman, V., "A Comparison of Some Measures for the Determination of Inter-Molecular Structural Similarity Measures of Inter-Molecular Structural Similarity", <i>Quantitative Structure-Activity Relationships</i> , VCH, Vol. 5, No. 1, March 1986, pp. 18-25.									
	AR	33	Zadeh, L. A. February 19	, "Com 58, pp.	munication 94-102.	Fuzzy i	Algorithms", <i>Informatio</i>	n and (Control, Acade	emic Press Inc	c., Vol. 12, No. 2,	
EXAMINER		-	L		<u> </u>				DATE CONS	SIDERED		

TENI & TRADE

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT

ATTY.	DOCKET	NO.
1503.1	1070003	

APPLICATION NO. 09/934,084

APPLICANTS

Lobanov et al

FILING DATE August 22, 2001 GROUP 1631

						_	gust 22, 2001		11031		
				1	U.S. P	ATEN	DOCUMENTS			T	
EXAMINER INITIAL		DOCU	JMENT BER	DATI	ATE NAME			CLASS	SUB- CLASS	FILING DATE	
	AA34										
	AB34									FOE	
	AC34									RECEI	<u> NFD</u>
	AD34					<u> </u>					0000
	AE34	L		<u> </u>		<u> </u>			·	MAY 05	2003_
	AF34					ļ		***		- CENTED	4 <i>eon/</i> 0000
	AG34			<u> </u>		ļ			JEUI	CENTER	1600/2900
	AH34		, et			<u></u>			<u> </u>		
	Al34					<u> </u>					
					FOREIGI	N PATI	NT DOCUMENTS			т	
EXAMINER INITIAL		DOC	JMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ34					:					Yes No
	AK34										Yes No
	AL34										Yes No
	AM34										Yes No
		1	OTH	ED /In	cluding Aut	hor T	itle, Date, Pertinent l	Page 6	otc)	_l	
	AN	34	353. Havel. T., "A	New N	Method for B	Buildina	n and Control, Acader Protein Conformation or Biology, Academic	ns from S	Sequence Alig	nments with I	Homologues of
	АР	<u>34</u>	and other Ma	acromo	lecules from	n Nucle	ce Geometry Progran ar Magnetic Resonar thematical Biology, P	nce Meas	surements of I	ntramolecula	r ¹H- ¹H
AQ 34 Aoyama, T. et al., "Neural Networks Applied to Structure-Activity Relationships," Journal of American Chemical Society, Vol. 33., No. 3, 1990, pp. 905-908.									lournal of Me	dicinal Chemistry,	
	AR	<u>34</u>	Gasteiger, J. Recognition Vol. 33, No.	Metho	ds," <i>Journal</i>	of Che	eactivity of Single Bor mical Information and	nds in Ali d Compu	phatic Molecu ter Sciences, i	lles by Statist American Ch	ical and Pattern emical Society,
EXAMINER							.		DATE CONS	IDERED	



TH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

	1492 33 01 37
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084
APPLICANTS Lobanov et al.	
FILING DATE	GROUP 1631

					<u> </u>	Au	gust 22, 2001		1631		
					U.S. P	ATEN	T DOCUMENTS	_			-
EXAMINER INITIAL			CUMENT IBER	DATI	Ξ	NAM	E		CLASS	SUB- CLASS	FILING DATE
	AA35										
	AB35									RECE	IVED
	AC35	<u> </u>				<u> </u>			_	ILUL	
	AD35									MAY 0	s 2003
	AE35	<u> </u>									<u> </u>
	AF35	ļ		<u> </u>					17	CH CENTE	R 1600/2900
	AG35	<u> </u>		ļ		 			V ,	-	
	AH35	<u> </u>				_					
	AI35	<u>L</u>				<u> </u>				<u> </u>	
	- 1				FOREIGI	N PAT	ENT DOCUMENTS	. <u>-</u>		1	
EXAMINER INITIAL		DOC	CUMENT NUM	BER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ35										Yes No
	AK35										Yes No
	AL35										Yes No
	AM35	<u> </u>									Yes No
		J	ОТН	ER (In	cluding Aut	thor, T	itle, Date, Pertinent	Pages, e	etc.)	<u> </u>	
	AN	<u>35</u>	Guez, A. and integrated me	Nevo	, I., "Neural ng," <i>Clinica</i>	networ Chimic	ks and fuzzy logic in a Acta, Elsevier Scien	clinicat la	aboratory com ishers B.V., V	oputing with ap ol. 248, 1996,	oplication to pp. 73-90.
	AO	<u>35</u>	Rouvray, D.H 173, 1995, p	I., "Sin o. 1-30	nilarity in Ch	nemistr	y: Past, Present and	Future,"	Topics in Che	<i>emistry</i> , Spring	er-Verlag, Vol.
	AP	<u>35</u>	de Ridder, D Recognition	and E	Duin, R.P.W s, Elsevier S	., "San cience	nmon's mapping usin Publishers B.V., Vol.	g neural . 18, No.	networks: A c 11-13, 1997,	omparison, <i>" F</i> pp. 1307-1310	Pattern 3.
	AQ	<u>35</u>	Geometry for	the D	etermination	of Pro	ation of the Combine otein Conformations i 1985, pages 281-29	n Solutio	Nuclear Magr n," <i>Journal of</i>	netic Resonar Molecular Bio	nce and Distance ology, Academic
	AR	<u>35</u>	Chang, G. et the Americar	al., "A Chen	n Internal C	oordin ⁄, Ame	ate Monte Carlo Meth rican Chemical Socie	nod for S ty, Vol. II	earching Cont I, June 1989,	formational Sp No. 12, pages	pace, <i>Journal of</i> s 4379-4386.
EXAMINER			J						DATE CONS	SIDERED	

THE THAT FOURTH

FORM PTO-1449

FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

	1030	 	<u> </u>
ATTY. DOCKET NO. 1503.1070003	APPLICATION NO. 09/934,084		
APPLICANTS Lobanov et al.			
FILING DATE	GROUP		

						Au	gust 22, 2001		1631		
					U.S. P.	ATEN	T DOCUMENTS				
EXAMINER INITIAL			UMENT IBER	DATI	E	NAM	E	CL	ASS	SUB- CLASS	FILING DATE
	AA36										
	AB36										
	AC36			ļ	·	ļ				RECE	IVED
	AD36	ļ				ļ					
	AE36			<u> </u>		<u> </u>				MAY 0.5	2003
	AF36	<u> </u>								LLOCATE	2.4000/0000
	AG36	<u> </u>		<u> </u>		<u> </u>			ŢEC	H CENTE	R 1600/2900
	AH36	ļ					<u></u>				
	AI36	<u> </u>								<u> </u>	L
		т-			FOREIGN	N PATI	ENT DOCUMENTS	<u> </u>		1	
EXAMINER INITIAL		DOC	UMENT NUM	BER	DATE		COUNTRY	CL	ASS	SUB- CLASS	TRANSLATION
	AJ36										Yes No
	AK36										Yes No
	AL36										Yes No
	AM36										Yes No
		•	ОТН	ER (In	cluding Aut	hor, T	itle, Date, Pertinent Pa	ages, etc.)			
	AN	<u>36</u>	1988, entire l	oook s	ubmitted.		ce Geometry and Mole				
	AO	<u>36</u>	Molecular Co	nform	ations," <i>Joui</i>	rnal of	owledge-Based and Dis Information and Compu	stance Geom ter Sciences	etry App , Americ	roacnes for G an Chemical	Society, Vol. 41,
	АР	<u>36</u>		ement	al Pulse Sea	arch," .	Approach to Probing Co lournal of the American 378.				
	AQ	<u>36</u>	Halgren, T. a MMFF94*," J 915.	nd Na Iournai	chbar, R., "N of Computa	Merck I ational	Molecular Force Field. I Chemistry, John Wiley	V. Conforma & Sons, Inc.,	tional En Vol. 17,	nergies and G Nos. 5 & 6,	eometries for 1996, pages 587-
	AR	<u>36</u>	Halgren, T., 'Computation, 17, Nos. 5 &	al Data	a, and Empir	ical Ru	Field. V. Extension of Mules*," <i>Journal of Comp</i> 641.	MFF94 Using	g Experir emistry, .	nental Data, John Wiley &	Additional Sons, Inc., Vol.
EXAMINER						***		DATE	E CONSI	IDERED	

FORM PTO-1449
FOURTH SUPPLEMENTAL INFORMATION

FORM PTO-1449

DISCLOSURE STATEMENT

ATTY.	DOCKET	NO.
1503.	1070003	

APPLICATION NO. 09/934,084

APPLICANTS Lobanov et al.

FILING DATE

	<u>D15C.</u>	BOSORE	STATEMEN	<u> </u>		Au	gust 22, 2001		163		
					U.S. F	ATEN	T DOCUMENTS				•
EXAMINER INITIAL		DOC! NUM	UMENT BER	DATI	E	NAM	NAME			SUB- CLASS	FILING DATE
	AA37	<u> </u>				<u> </u>					
	AB37					ļ				∤REC	EIVED
	AC37	ļ									·
	AD37	 				↓				MAY (5 2003
	AE37	1		-∤		 					F
	AF37	-			-	-			+ 1	ECH CEN	FR 1600/2900
	AG37			-					-	-	
	AH37	-		 		+-					
	AI37			<u> </u>	EOREIG	N DAT	ENT DOCUMENTS		<u> </u>		
EXAMINER	1	1			FOREIG	NFAI	LIVI BOCOMENTO			T	
INITIAL		DOC		MBER	DATE		COUNTRY		CLASS	SUB- CLASS	TRANSLATION
	AJ37										Yes No
	AK37					4					Yes No
	AL37										Yes No
	AM37										Yes No
			ОТН	IER (In	cluding Au	thor, T	itle, Date, Pertinent F	Pages,	etc.)		
	AN	<u>37</u>	Huang, E. e distances of pages 1998	predict	istance geo ted protein s	metry (structur	generates native-like foes," <i>Protein Science</i> ,	olds for The Pro	small helical tein Society,	proteins using Vol. 7, No. 9,	the consensus September 1998,
	AO	<u>37</u>									
	AP	37									
	AQ	<u>37</u>									
	AR	<u>37</u>	1								
EXAMINER									DATE CON	SIDERED	